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## Non-Magnetic Field Double Heating Coil Type Single Heating Element

### Abstract

A heating apparatus which is manufactured by arranging single heating coil in distributed arrays or by forming the necessary heating part in a same manner will generate magnetic field that is proportionate to the electric current and, thus, will affect a human body that makes a contact or approaches such apparatus in adverse manner through electro-magnetic wave disturbances.

The purpose of this invention is, in order to prevent the generation of such type of electro-magnetic waves, by making 2 heating coils and arranging them in concentric arrays and by **closely attaching them together** to prevent leakage of magnetic field while having the **electricity insulating materials** between them robust enough to withstand the voltage used; and by using heating element that is clad on its outside with insulating material that is robust enough to withstand the mechanical stress applied during the usage and thus, eliminating the damaging disturbance of electro-magnetic waves. In using this as electric heating element, if the electric current for heating is applied to the heating element in a way that makes the current flow in mutually opposite directions on the two heating coils, the **magnetic fields** generated by them are mutually offset and cancelled.

Additionally, as the 2 coils are arrayed in closely adhered manner, the **leakages of the magnetic field** are not only minimum but also are mutually offset and cancelled and thus, a non-magnetic field is achieved.

### Utility Model Registration Claims

New type of single electric heating element clad by insulating materials to withstand the mechanical stress of usage consisting of concentric coils formed by double heating coils which have sufficient insulating layers between them while closely adhered to each other in order to suppress the leakage of the magnetic field to the extreme minimum.

※ Note: This is a laying open in accordance with the content of the first application.

### Brief Explanation of the Drawing

Figure Number 1 shows Non-Magnetic Field Double Heating Coil Type Single Heating Element of this invention.